

Study Questions for Electricity and Electrical Current

Definition of Electricity and Electrical Charge

Complete the following definitions:

Static electricity is ...

Electrical current is ...

The intrinsic property that is a measure of a materials ability to conduct electricity is ...

Conductors, Insulators and Semiconductors

Complete the following phrases:

Examples of good conductors are ...

Examples of good insulators are ...

A semiconductor has an electrical conductivity that is ... relative to conductors and insulators.

Examples of semiconductors are ...

Atomic Structure and the Periodic Chart

Complete the following phrases:

Electrical current is caused by the movement of ...

... are subatomic particles with negative charge

... are subatomic particles with positive charge

The nucleus of an atom consists of ...

... are particles in the nucleus that contribute to the mass of an atom but have neither positive or negative charge.

True or false: The atomic number is equal to the number of nucleons in an atom.

True or false: The atomic mass is a fractional number (as opposed to an integer) because of the uncertainty in the actual mass of an atom.

An isotope has a stable arrangement of _____ and _____ in its nucleus.

All isotopes of an element have the same number of ...

The atomic number is ...

The atomic mass of two isotopes of the same element is ... (the same/different)

The atomic mass of an element is determined by the ... of isotopes on the earth.

The periodic chart is ...

The nucleus of Copper has ... protons

^{63}Cu has _____ neutrons

^{65}Cu has _____ neutrons

Avogadro's number is _____

In the field of chemistry, a mole is _____

Electrons in Shells: the Bohr Model of the Atom

Complete the following definitions:

A quanta is ...

Complete the following phrases:

Electrons exist in discrete energy levels called ...

If the valence shell of an element is mostly empty, that element is _____ (an insulator or a conductor?)

Electrical Current: Flow of Charge

Electrical current is the flow or movement of _____.

Electrons flow from _____ to _____ terminals in a loop.

Current flow is from _____ to _____ terminals in a loop.

True or false: when electrical current is flowing, the atoms of the conductor are moving from the positive to the negative terminal.

Model of Electrical Current

True or false: The direction of the electrical current flow is the same as the direction of the electron flow.

True or false: electrical potential is caused by an uneven distribution of charge.

True or false: electrons move in straight lines from regions of high potential to regions of low potential.